

Claims

- [c1] A rotary indexing turret for interconnecting a fiber-optic illuminator having a light source and a fiber-optic cable for use within a housing for the fiber-optic illuminator, comprising:
- a generally cylindrical body portion with a front end and a back end, having a plurality of openings with ports wherein each port is adapted for inter-engagement with a specific type of fiber-optic cable;
- means for incrementally rotating and indexing the body portion within the housing of the fiber-optic illuminator so that a particular port is in optical communication with the light source.
- [c2] The turret of claim 1, further comprising one or more cooling fins located around each opening; and.
- [c3] The turret of claim 1, further comprising:
- a stand axis; and
- a handle axis.
- [c4] The turret of claim 3, further comprising a handle located outside the housing connected to the body portion of the turret at the handle axis.
- [c5] The turret of claim 1, wherein the means for incrementally rotating and indexing the body portion comprises:
- a disk with a front surface and a back surface including a plurality of depressions on the back surface located at the back end of the turret body whereby each depression is adapted to receive a resilient biased bearing located within the housing of the fiber-optic illuminator; and
- means for attaching the disk to the rear portion of the turret body.
- [c6] The turret of claim 1, wherein the means for incrementally rotating the body portion comprises:
- a plurality of depressions on the back end of the turret body whereby each depression is adapted to receive a resilient biased bearing located within the housing of the fiber-optic illuminator.
- [c7] The turret of claim 2, wherein the one or more cooling fins further comprises:

a cleft;
a tubular lens within the cleft; and
means for securing the tubular lens within the cleft.

[c8] The turret of claim 1, wherein the port further includes a spring adapted for linkage to a specific fiber-optic cable.

[c9] A fiber-optic illuminator, comprising:
a light source;
a turret comprising a plurality of ports each with a front end and a back end wherein the front end of each port is specifically adapted for inter-engagement with a fiber-optic cable;
a housing having an inside and an outside that at least partially encloses the light source and the turret body such that a particular port simultaneously is in optical communication with the light source and is accessible from outside the housing;
means for rotatably mounting the turret within the housing such that a particular port simultaneously is in optical communication with the light source and is accessible from outside the housing.

[c10] The fiber-optic illuminator of claim 9, further comprising a handle located outside the housing connected to a front end of the turret.

[c11] The fiber-optic illuminator of claim 9, wherein the turret further comprises:
a disk with a front surface and a back surface including a plurality of depressions on the back surface located at the rear portion of the turret whereby each depression is adapted to receive a resilient biased bearing within the housing of the fiber-optic illuminator; and
means for attaching the disk to the rear portion of the turret body.

[c12] The fiber-optic illuminator of claim 9, wherein the means for incrementally rotating the body portion comprises:
a plurality of depressions on the back end of the turret body whereby each depression is adapted to receive a resilient biased bearing located within the housing of the fiber-optic illuminator.

[c13] The fiber-optic illuminator of claim 9, wherein the housing further comprises a stand for the turret located inside the housing.

[c14] The fiber-optic illuminator of claim 13, wherein the stand comprises:
a depression;
bearing means located at least partway in the depression; and
means for resiliently biasing the bearing means so that the bearing is in mechanical cooperation with the turret so that the turret is incrementally rotatable.

[c15] A recessed rotary multiple port turret mechanism for mounting within a fiber-optic illumination device, said turret mechanism comprising:
a turret body adapted for mounting within said fiber-optic illumination device, said turret body comprising a base portion and an elongated portion, said base portion including one or more ports sized to selectively receive and engage an end of one of a multiple of fiber-optic cables, said elongated portion including one or more longitudinal ports disposed therethrough, said one or more longitudinal ports corresponding to said one or more ports in said base portion, said one or more longitudinal ports sized to receive and engage said one end of said variety of fiber-optic cables;
mounting means for mounting said turret body within said illumination device; and
selective rotating means for selectively controlling the rotation of said turret body in order to expose one of said turret body ports such that light from said illumination device is directed through a corresponding fiber-optic cable engaged with said exposed port.

[c16] The recessed rotary multiple port turret mechanism of claim 15 wherein said elongated portion further comprises a plurality of cooling fins longitudinally disposed therethrough.

[c17] The recessed rotary multiple port indexing turret mechanism of claim 15 wherein each said port is comprised of a predetermined shape.

[c18] The recessed rotary multiple port turret indexing mechanism of claim 15

wherein each said port is adapted for a different fiber-optic cable.

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